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Information Science and Technology Center Seminar

Jinyi Qi
University of California-Davis

"Bayesian Image Reconstruction for Muon Tomography"

Wednesday, February 3, 2010
3:00 - 4:30 PM
TA-3, Bldg. 1690, Room 102 (CNLS Conference Room)

Abstract: Muon tomography is a novel technology that is being developed for detecting high-Z materials in vehicles or cargo containers. We have developed Bayesian image reconstruction method for muon tomography to improve the detection performance by introducing prior distributions on the scattering density images. In this talk I will describe the image reconstruction algorithm and present Monte Carlo simulation results. Examples of Bayesian image reconstruction in other imaging modalities will also be covered briefly.

Biography: Jinyi Qi is an Associate Professor of Biomedical Engineering at University of California – Davis, and a Faculty Scientist at LBNL. He received his Ph.D. degree in Electrical Engineering from the University of Southern California (USC) in 1998. From 1999 to 2004, he was a Computer Scientist in the Department of Functional Imaging at LBNL. He joined the faculty of UC Davis in 2004. Dr. Qi is an Associate Editor of IEEE Transactions of Medical Imaging. He received the IEEE Young Investigator Medical Image Science Award in 2001 and IEEE NPSS Early Achievement Award in 2009. His research focuses on statistical image reconstruction, medical image processing, image quality evaluation, and imaging system optimization.

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——Hosted by the Information Science and Technology Center (ISTC) and the Engineering Institute (EI)——